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March 17, 1997

ACC MAIL ROOM

Secretary  
Federal Communications Commission  
1919 M Street, N.W.  
Washington, DC 20554

MAR 20 1997

Re: Notice of Inquiry, CC Docket No. 96-263

Dear Sir or Madam:

Enclosed please find the original plus 16 copies of the Comments of Pennsylvania Internet Service Providers in the above-referenced proceeding. In addition, I have enclosed a diskette that contains a copy of the Comments in Word Perfect 5.1 format, as well as in HTML format.

In accordance with the Commission's instructions, I also have sent two additional copies of the Comments to the Competitive Pricing Division of the Common Carrier Bureau.

Finally, I have enclosed an additional copy of this cover letter that I would like to have time-stamped and returned to me in the enclosed envelope.

Thank you for your prompt attention to this matter.

Sincerely,

  
Scott J. Rubin, Esq.

Enclosures

cc: Competitive Pricing Division

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BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION

MAR 20 1997

Usage of the Public Switched :  
Network by Information Service and : CC Docket No. 96-263  
Internet Access Providers :

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**Comments of  
Pennsylvania Internet Service Providers  
on Notice of Inquiry**

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Dated: March 24, 1997

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## **Summary**

Fifteen Internet service providers (ISPs) in Pennsylvania are jointly submitting these Comments to provide a perspective to the Federal Communications Commission ("Commission") from small ISPs. These 15 ISPs serve primarily small cities and rural areas and, at the present time, are captive customers of their LECs for most telecommunications services. These ISPs' responses to the Notice of Inquiry can be summarized as follows.

- The Commission does not need to adopt new regulations to encourage the efficient utilization of the public switched telephone network. See page 2.
- The Commission needs to vigilantly enforce its existing regulations to ensure that LECs do not improperly favor their ISP affiliates. See page 4.
- Internet usage does not place an undue burden on the telephone network. In fact, Internet usage is allowing LECs to maximize their revenue from their existing investment in the network. See page 6.
- LECs are failing to make new investments in their networks that could improve the efficiency and quality of service. See page 11.
- It is neither feasible nor appropriate for the Commission to attempt to regulate the deployment of new technologies on the network. See page 14.

## **Introduction**

Pursuant to the Notice of Inquiry ("NOI") issued in this docket by the Federal Communications Commission ("FCC" or "Commission") on December 24, 1996, Pennsylvania Internet Service Providers ("PaISP") submits these Comments for the Commission's consideration.

PaISP is an ad hoc group of 15 small, independent Internet service providers ("ISPs") that provide service throughout the Commonwealth of Pennsylvania. These 15 ISPs have joined together in order to provide information to the Commission from the perspective of small ISPs that serve predominantly rural areas and small communities. The ISPs that make up PaISP are listed in Appendix A to these Comments. These Comments represent the consensus views of the 15 ISPs. For ease of reference PaISP will be used in the singular as a shorthand way of referring to all 15 companies collectively.

The 15 ISPs participating in these Comments collectively provide more than 20,000 customers, most of whom are residences and small businesses, with Internet access in all portions of Pennsylvania. They include among their customers approximately 200 schools, 40 hospitals, 60 libraries, and 70 local governments. Most of these customers are in small cities and rural areas that would not have toll-free access to the Internet without a small, local ISP. In order to bring the Internet to these communities, these ISPs purchase more than 2,500 local access lines from their local exchange carriers ("LEC") – either Bell Atlantic-Pennsylvania or GTE North. Annually, these ISPs collectively pay more than \$1.5 million to their LECs, representing anywhere from roughly one-eighth to nearly one-half of each ISP's total revenue.

The companies in PaISP vary in size – from 25 access lines to 500 access lines – but all are small businesses by any definition. But they also are substantial users of telecommunications services who must purchase essentially all of those services from their LEC. Many of these ISPs are located in small cities or towns that do not now, and will not for the foreseeable future, have any access to competitive providers of the telecommunications services that they need – analog and ISDN local telephone lines; fiber optic facilities; T-1, SMDS, and other high-speed data lines; and similar facilities.

### **Regulatory Changes are Not Needed to Encourage Efficient Utilization of the Telephone Network**

PaISP urges the Commission to resist the temptation to try to dictate the type of technology that should be employed on the public switched telephone network (“PSTN”) to alleviate any congestion that may be caused by customers connecting to the Internet. While PaISP understands that there are concerns about the demands that are being placed on the PSTN, a full examination of the facts should lead to the following conclusions:

- Use of the PSTN to access the Internet occurs primarily during off-peak time periods, resulting in more efficient use of the PSTN.
- LECs have failed to invest adequately in their local networks.
- Technological changes are occurring rapidly, cannot be controlled by regulators, and are reducing the impact of Internet access on the PSTN.
- As competition increases in the market for local telecommunications services, new technologies will be deployed rapidly and cost-effectively, resulting in a further easing of the impact of Internet access on the PSTN.

Each of these facts is explained more fully in the following sections.

### **The Commission Must Enforce Existing Regulations that Prohibit LECs from Favoring their ISP Affiliates**

One factor that could seriously impede the efficient use of the PSTN to access the Internet is the possibility of discriminatory pricing or other service conditions that favor LEC affiliates that are ISPs. As the Commission well knows, any type of anti-competitive behavior can distort the normal market forces that are so effective in solving resource allocation problems and giving the appropriate incentives to consumers.

PaISP is concerned that, as LEC affiliates enter the business of providing Internet access, LECs will engage in anti-competitive behavior that will both impede the ability of independent ISPs to provide service and discourage those independents from investing in new technologies and facilities.

Three examples will serve to make this point. First, Bell Atlantic, GTE, and other LECs are offering special discounts or package deals on the installation of regulated services coupled with subscription to a LEC-affiliate ISP. Appendix B to these Comments is a copy of a brochure from Bell Atlantic that offers discounts on an ISDN modem and Bell Atlantic's ISP affiliate (both of which are competitive and unregulated services) when coupled with the purchase of residential ISDN service (a monopoly, regulated service). According to a recent report in the trade press, all of the regional Bell operating companies, except Nynex, have ISP affiliates. "Telephone Companies Target ISP Market," *Inter@ctive Week* (Mar. 10, 1997). Further, this article states that it is a common practice for LECs and their ISP affiliates to engage in joint marketing that combines regulated and unregulated services. *Id.*

These types of arrangements, even if they are legal (which is questionable) create a distorted market for the provision of Internet service. By driving customers away from independent ISPs, LECs are doing nothing to encourage the efficient use of the network. Indeed, it is likely that a small, independent ISP with limited capital has made very efficient decisions about how its capital should be deployed to most efficiently provide service. In contrast, it appears that some of the LEC-affiliate ISPs rely much more heavily on network resources rather than installing their own facilities. They also tend to make much more costly initial investments when deciding to enter the ISP business.

Second, Bell Atlantic has created a new service, the Internet Protocol Routing Service ("IPRS") that relies heavily on existing network facilities to route traffic to the Internet. However, there are numerous problems with the way in which the service is designed and offered. First, the price of the service is extremely high and is not a cost-effective solution for most independent ISPs. Indeed, the pricing of the service is designed to recover extraordinarily high rates in the early years, with steep rate reductions over time. Second, the service requires an independent ISP to turn over its customer lists and customer passwords to the LEC, at the same time that the LEC has an affiliate that is competing with the independent ISPs. Third, when members of PaISP inquired about the availability of this service, they were told that it was not designed for them and was not available to them. On further investigation, it appears that this service was designed for, and is being used by, the LEC's ISP affiliate.

Third, Bell Atlantic-Pennsylvania appears to be engaging in a pattern of conduct that discriminates against independent ISPs. Several members of PaISP have ordered services from that LEC and have encountered untoward delays and problems in obtaining those services. For



example, an ISP ordered a BRI ISDN line for a customer at the same time the customer ordered another BRI ISDN line directly from the LEC in the same location. The line ordered directly by the customer was installed in about two weeks, while the line ordered by the ISP for the same customer in the same location was installed in about six weeks. This is but one of numerous instances where facilities for ISPs took much longer to obtain than comparable facilities for a non-ISP customer.

Moreover, and more importantly, when LECs engage in anti-competitive conduct, the initial reaction of most ISPs will be to preserve capital and protect their existing business. This discourages independent ISPs from making the types of higher-risk capital investment decisions that they would make under normal market conditions. That is, when independent ISPs have to spend their limited resources responding to unfair competition from LEC affiliates, they cannot spend those resources improving and expanding their facilities.

Rather than attempting to regulate the Internet or the technologies that will be developed to more efficiently access the Internet, PaISP respectfully suggests that the Commission's resources would be better allocated to enforcing existing requirements that restrict the activities of LEC affiliates. PaISP members have observed numerous instances of LECs favoring their affiliates and, either through incompetence or conscious anti-competitive practices, discriminating against independent ISPs. These types of practices impede the free market and restrict the ability of small ISPs to invest in more efficient ways to serve their customers.

### **Internet Usage Does Not Place an Undue Burden on the PSTN**

Many of the studies and public statements that LECs have provided about the effect of Internet access on the PSTN are misleading and should not be relied upon by the Commission.

Perhaps the most commonly perpetrated misstatement is that "all those busy signals means that there's a problem with the network." Thus, LECs point to the problems that customers of America On Line and other large ISPs have with busy signals. These problems result primarily from one fact: the ISP has failed to invest in enough equipment (telephone lines, modems, etc.) to handle the demand from its customers. Receiving frequent busy signals from an ISP does not mean that there is a problem with the PSTN; it means that there is a problem with the ISP.

PaISP also would note that, in many instances, the ISP's problem is caused by the LEC failing to fill the ISP's orders for new service in a timely fashion. PaISP members have experienced lengthy delays in obtaining new analog and digital telephone lines from their LECs. As was noted above, there have been many instances where it has taken a LEC several times longer to fill an ISP's order than it has to fill orders from non-ISP customers. Needless to say, during such periods of delay, ISP customers may experience busy signals or other problems in connecting to the ISP. But, again, these are not problems caused by the PSTN; they are problems caused by the LEC failing to respond in a timely fashion.

In addition, PaISP would note that one of the critical factors in an ISP's business plan is the ratio of customers to available connections (telephone lines and modems). For various reasons – including differences in capital resources, different demographics of customer populations, and others – different ISPs use different ratios. Some ISPs might plan their systems on a ratio of 5:1 (5 customers for each available phone connection), while others might use ratios of 10:1 or higher. During peak time periods, ISPs with higher ratios will be more likely to have customers experience busy signals. However, this is not an indication of a problem with the

PSTN; it is an indication that the ISP has made a business decision about how to balance the demands of its customers with the costs of providing service.

Another myth being circulated by LECs is that ISPs place a much higher demand on their telephone lines than do “normal” customers. There are two major problems with this argument. First, most ISPs have their telephone lines provided through a central office network (“Centrex” for Bell Atlantic; “Centranet” for GTE). These networks are designed to compete directly with private branch exchange (PBX) services offered by third parties. It is well established that PBX trunks have a much higher demand placed on them than do “normal” phone lines. Indeed, that is the very purpose of the service – to aggregate calls over the smallest number of phone lines possible, to achieve a given level of service. The central office network serves precisely the same purpose. The idea of a Centrex type of service is to aggregate calls over the fewest number of phone lines possible to achieve a given level of service.

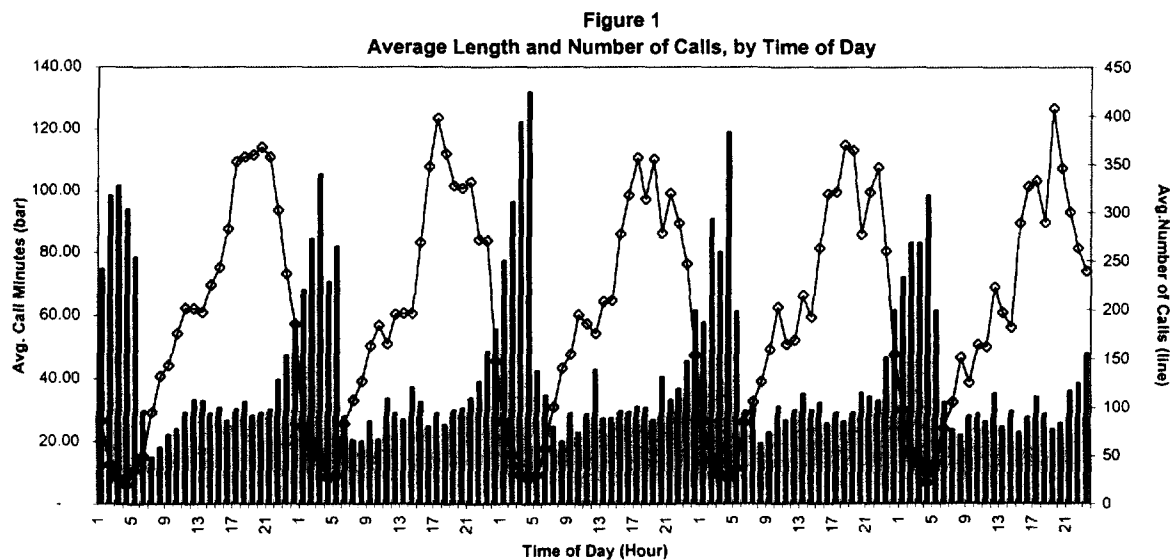
Indeed, ISPs are being sold central office network services by LECs in direct competition with PBX types of service. ISPs are being encouraged by LECs to use central office networks as a cost-effective way to provide the same functionality that a PBX could provide – maximizing the calling volume per line while obtaining a given level of service.

Now LECs are pointing out the fact that these lines are heavily loaded when compared to a “normal” line. Of course they are. That is the service that is being sold and that is how the service is designed to operate. The proper comparison would be to compare ISPs to other central office network and PBX trunk customers. Such a comparison is discussed in Selwyn and Laszlo, *The Effects of Internet Use on the Nation's Telephone Network* (Jan. 22, 1997), at page 18. The

authors conclude that the levels of peak usage seen on ISP networks are similar to those that would be expected on PBX trunks of a comparable size.

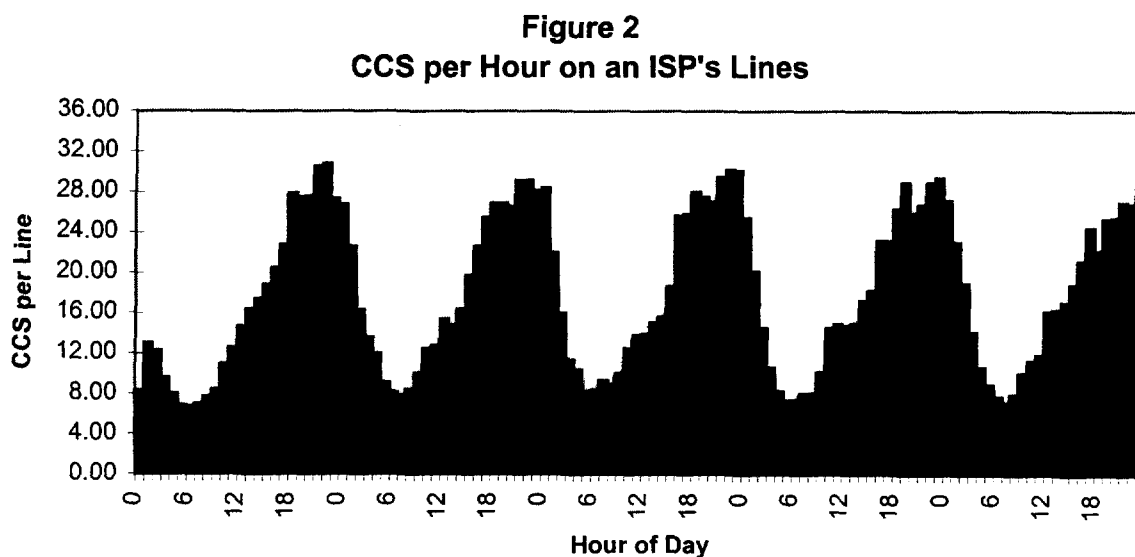
Moreover, it must be noted that ISPs tend to have their maximum usage during hours that are off-peak periods on the PSTN. Most ISPs, including PaISP members, experience peaks between roughly 6:00 p.m. and 10:00 p.m., while the PSTN usually peaks during the business day. By peaking during these hours, ISPs are making more efficient use of the PSTN and are not imposing an increased burden on the PSTN. In fact, it could be argued that ISPs are allowing LECs to maximize the LECs' investment in the PSTN, by generating additional revenues (from both ISPs and ISP customers who purchase additional phone lines from the LECs) from off-peak usage of the PSTN. Thus, much of the demand for ISP services can be met from the LECs' existing investment in switching or other central office equipment.

Studies conducted by PaISP confirm these nationwide trends and offer important insights into Internet usage. Figures 1 and 2 show an ISP's usage patterns during a representative week (Monday through Friday) during January 1997 (comparable data for this and other ISPs show similar patterns of usage). Figure 1 shows that the number of calls per hour peak in the evening, but this is also the time when calls are the shortest (averaging about 30 minutes). In contrast, the



horror stories that LECs like to tell of extremely long hold times on calls tend to occur during the early morning hours, when traffic on both the PSTN and the ISP's network is at its lowest point.

Similarly, Figure 2 shows the loading on this same ISP's lines (measured in one hundred seconds of connected time, or CCS, per hour) during this five-day period. The same pattern is clearly evident – usage peaks during the evening and late night hours. While these data may appear high, it must be remembered that these represent just the usage of the ISP's lines (approximately 200 lines in this case); not the usage on the entire switch. Thus, even at its peak of about 32 CCS, this represents more than 10% of the ISP's capacity (or about 20 lines) that is unused during the busiest hour. Obviously, as the amount of unused capacity at the peak hour decreases, the ISP must make a further investment in lines and equipment, or risk having dissatisfied customers who cannot connect to the ISP's service.

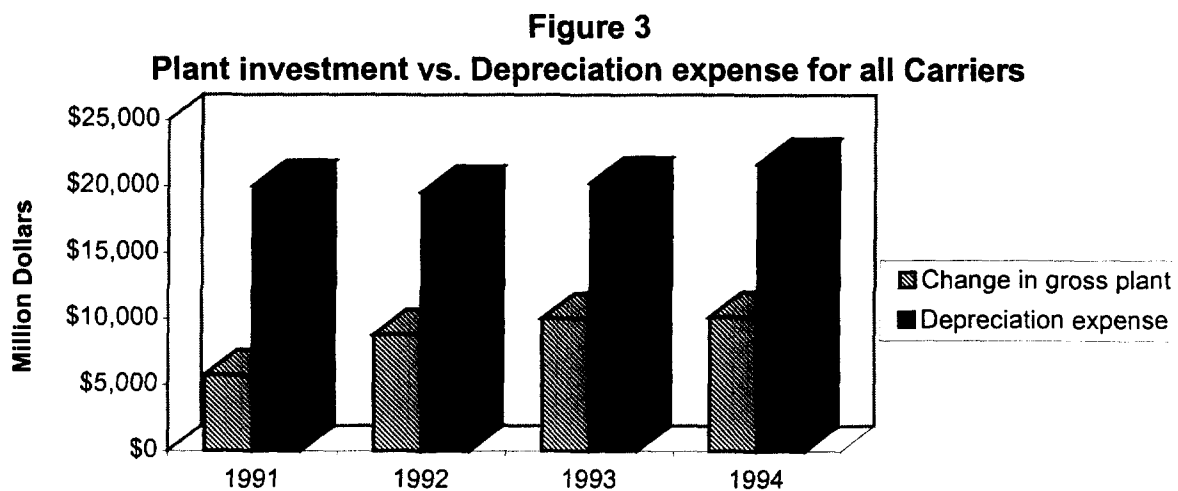


Simply, the network is functioning exactly the way it should. ISPs purchase enough telephone lines and other equipment to provide an acceptable level of service to their customers.

The LEC experiences an increase in traffic during off-peak periods, which maximizes its return on investment in the PSTN and serves to minimize network costs to all of the LEC's customers. PaISP must wonder, then, about the reasons behind the Commission's inquiry into the alleged problem.

### LECs Have Failed to Invest in the Local Networks

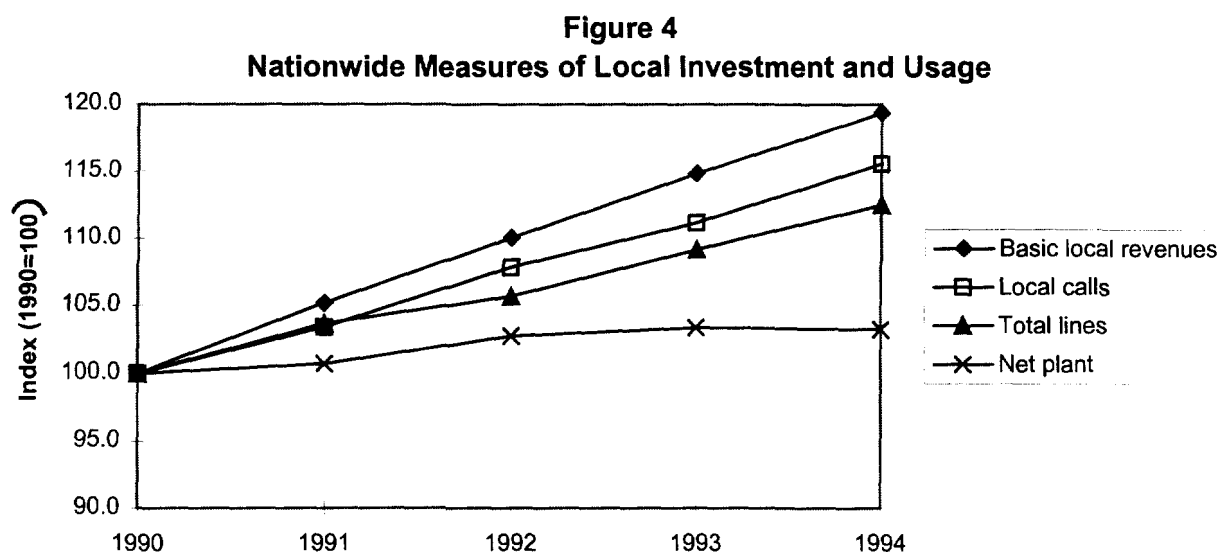
It seems to PaISP that the "problem" is that LECs do not want to invest additional money in their regulated networks. The potential for profits, apparently, is much greater if a LEC invests in foreign markets and other unregulated operations. In other words, it appears that the only "problem" is that LECs are unwilling to make the investment that is necessary to keep the PSTN reliable. Traffic is growing steadily, but LEC investment in the local networks appears not to be keeping up with that trend. See Figures 3 and 4.



The 1995/1996 edition of *Statistics of Communications Common Carriers (SOCC)* shows that from December 31, 1990, until December 31, 1994 (the most recent period of comparable

data that is available), communications carriers nationwide increased their investment in plant by approximately \$35 billion. *SOCC* Table 6.8. However, during that same four-year period, these carriers collected more than \$80 billion in depreciation and amortization expense from their customers. *Id.* Table 6.6. That is, the carriers' total investment in their networks amounted to **less than one-half** of the amount they were collecting for plant replacements. See Figure 3.

This means, simply, that the telecommunications network is aging because carriers are not replacing and upgrading their core facilities. At year-end 1990, the ratio of accrued depreciation to total plant was about 36%; that is, on average, the plant had been in service for about one-third of its useful life. *Id.* Table 6.8. By year-end 1994, this ratio had climbed to more than 42%, meaning that the plant is aging and is not being replaced. *Id.*



PaISP finds it astounding to realize that, from 1990 to 1994, the net plant investment by these carriers increased by just \$5.5 billion, or by less than 3%. *Id.* See Figure 4. But during this same four-year period, LECs' revenues for local service increased by more than 19%. *Id.* Table 6.1. In fact, basic local service revenues have increased **25%** faster than the number of

local calls, **50%** faster than the number of switched access lines, and **six times** faster than LECs' net plant investment.

These statistics support PaISP's belief that LECs have been reluctant to invest in their local networks. They have been more than willing to have their revenues for local service increase substantially, but they have not been making a comparable investment in their networks. Indeed, as stated above, the nationwide investment by these companies in the telecommunications infrastructure amounts to less than one-half of the amount that is being collected from customers for depreciation of these facilities. Presumably, the additional funds are being invested elsewhere – in other countries and in various unregulated ventures.

Simply, it is time for this money to stay at home and to be invested in the local communications networks. If LECs believe that the integrity of the PSTN is being jeopardized – whether by Internet access or for other reasons – then they should begin investing some of their increased revenues in those networks. If they believe that their equipment is outmoded and is no longer appropriate for handling current uses of the network, then they should begin investing some of their revenue in new equipment for the network.

But it is neither necessary nor appropriate for rates for local or access services to increase so that LECs can generate yet more money to be invested elsewhere. LECs must be reminded that their primary obligation as public utilities is to serve the public. PaISP has seen no evidence to suggest that the local networks are unable to handle the increased traffic caused by Internet access. PaISP has seen numerous instances, though, where advanced digital facilities are not being made available, particularly in rural areas and smaller cities. If LECs were investing in



their local networks, these more advanced facilities would be readily available and would enable much of the Internet traffic to bypass all or substantial portions of the PSTN.

### **Changes in Regulations are Not Required to Encourage the Deployment of New Technologies**

The solution to this problem would appear to lie in the marketplace. As competition increases for providing local service, there is a greater likelihood that the necessary investments will be made in the local network. If LECs are unwilling to provide the equipment that would allow Internet usage and other digital services to be off-loaded from the switched network, then competitive, facilities-based providers will make such services available.

The problem, of course, is that competition will not begin in rural areas or smaller cities. Left unchecked, LECs will target their investments to large metropolitan areas where they face competition from other providers; and the rural areas and smaller cities will be left with substandard service. To alleviate this problem, regulators must ensure that the costs of competition are not being shifted into those areas that are not receiving the benefits of competition.

But beyond this, regulators should allow the market to operate freely and fairly. Entrepreneurs will see the opportunities that are available in smaller communities to provide the services that the LECs have been unwilling to provide.

It is important, therefore, that regulators resist the temptation to try to regulate the deployment of technology, for at least two important reasons. First, no one can predict the technologies that will be available even six months from now that might completely change the way in which Internet service is provided. Less than a year ago, there was little incentive for a

small ISP to use PRI ISDN service. Now, with the advent of new, lower cost equipment from independent suppliers, PRI ISDN is one of the most cost-effective means for an ISP to provide high-quality service in smaller communities. Simply, there is no way for regulators to keep up with the market. Any attempt to dictate technology is doomed to failure.

Second, and even more importantly, attempts to define technological solutions to these issues will have a chilling effect on the development of innovative technologies and competitive alternatives. If the regulators try to define the technology that should be employed, those who might develop competing solutions will be hampered in their efforts. Who would buy a new technology, when regulators require that the old technology be used?

In short, PaISP respectfully submits that the Commission should not attempt to define the types of technologies that should be used on the local network – either for Internet access or for any other purpose. Rather, the Commission should ensure that the rules are fair: removing the barriers to competition for local service; enforcing the separation between regulated and competitive activities by incumbent LECs; and prohibiting the costs of competition from being borne by those who are not receiving its benefits.

If the rules are fair and the market is competitive, customers will choose the supplier that can best meet their needs. Today, most people who want to access the Internet can choose from among several competing ISPs. In the future, ISPs should be able to make a similar choice for the purchase of local network services. Full and fair competition is the best way to ensure that this vision becomes a reality.

## **Conclusion**

In summary, Pennsylvania Internet Service Providers respectfully requests the Federal Communications Commission to fully enforce the requirements for LECs to separate their regulated, monopoly activities from their unregulated, competitive activities. This will enhance the competitiveness of the marketplace, both for Internet access services and for local network services. PaISP believes that the solution to any potential congestion of the PSTN lies in new technologies and pricing options that are developed through vigorous competition; not through regulations that are doomed to be outdated before they are finalized.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Scott J. Rubin".

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Counsel for:  
Pennsylvania Internet Service Providers

Dated: March 24, 1997

## Appendix A

### **List of Pennsylvania Internet Service Providers**

Comcation, Inc.  
Doylestown, PA

CSRlink, Inc.  
Williamsport, PA

Cyberia Communications, Inc.  
York, PA

Dayton Computer Services, Inc. d/b/a  
Pathway Internet  
Grove City, PA

Infobahn International, Inc.  
West Mifflin, PA

LebaNet, Inc.  
Cornwall, PA

Luce-McQuillin Corp. d/b/a Telerama  
Pittsburgh, PA

MicroServe Information Systems, Inc.  
Wilkes-Barre, PA

Net Reach, Inc.  
Philadelphia, PA

Observer Publishing Co., Inc.  
Washington, PA

Penncom Internet Co.  
Warren, PA

SunLink, Inc.  
Sunbury, PA

TradeNet, Inc.  
Doylestown, PA

U.S. Online, Inc.  
Mount Laurel, NJ

Westmoreland Online, Inc.  
Greensburg, PA



**Save over 35% off our regular prices with FREE line installation and our Core Connections offer.**

Order ISDN by April 30, 1997 and the line installation's on us. That saves you \$125 up front.\*\* And that's just the beginning. Bell Atlantic and 3Com have teamed up to bring you our special Core Connections offer.

It means a \$40 savings on a super-fast, super-reliable 3ComImpact™ IQ External ISDN Modem. Here are a few of its impressive specs: 128Kbps transmission. Easy set-up, with a point-and-click interface. Two analog ports that connect to a phone and fax or two phones. Compatibility with 386/486/Pentium® PCs and Apple Macintosh® systems. And a lot more.

We'll also give you 30 free days of unlimited access to the Internet with Bell Atlantic.net,<sup>SM</sup> a \$17 value. Our Internet service makes exploring the Net even easier, with simple icons and symbols to guide you.\*\*

And you can save even more with 20 hours of ISDN line usage\* for less than \$32 a month, with comparable savings on higher-usage packages.

*With Residential ISDN you can download, transfer files and site surf up to 9 times faster than you do now. Think of all the time and frustration you'll save.*

**Phone InfoSpeed or visit our Home Page now.**

We've got the answers to your questions. And we have everything you need to take advantage of ISDN and the Internet. So call InfoSpeed today at 1 800 757-2195 and press 808. Or visit our Home Page at [www.BellAtlantic.com](http://www.BellAtlantic.com).

**Packages start at less than \$32 for 20 hours of ISDN line usage each month.**

**To order ISDN for your home at significant savings, or to get more information, call Bell Atlantic InfoSpeed at 1 800 757-2195 and press 808.**

**Consumer Information:**

\*Comparison versus 14.4 analog modems. Data rate of 128Kbps requires use of both B channels. Usage for each B channel will be recorded separately and added together to arrive at total line usage.

\*\*This offer is available to Residential ISDN customers of Bell Atlantic's operating telephone companies, except in Maryland. The credit valued at \$125 applies to installation of Residential ISDN lines ordered by April 30, 1997. The \$125 credit will appear on your Bell Atlantic ISDN bill, which is separate from your regular Bell Atlantic phone bill.

Installation of inside wiring and related equipment are additional cost items. Order Residential ISDN service from InfoSpeed before April 30, 1997 and get free line installation, a \$125 value. The \$40 savings only apply to residential customers ordering the 3ComImpact™ IQ External ISDN Modem from Bell Atlantic InfoSpeed by April 30, 1997. Bell Atlantic.net™ Internet access service is free for the first 30 days, a \$17 value. The \$17 savings will be reflected on your ISDN bill in the purchase price for the modem (you'll be billed for \$259 instead of \$299). 3ComImpact™ is a registered trademark of 3Com Corp. Residential ISDN service is provided by Bell Atlantic's operating telephone companies in accordance with filed and effective tariffs. When dialing outside your local calling area, toll and long distance charges apply. Bell Atlantic.net™ is provided by Bell Atlantic Internet Solutions, Inc. on a local calling basis in selected areas at this time. Call InfoSpeed at 1 800 757-2195 and press 808 for more information. 35% savings reflects 100% off line installation and 13% off 3ComImpact IQ External ISDN Modem. Pentium is a registered trademark of Intel Corp. Macintosh is a registered trademark of Apple Computer, Inc. © 1997 Bell Atlantic

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